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**ORIGINAL ARTICLES.**

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THE ASSOCIATION OF UNCIARIASIS (HOOK-WORM DISEASE) WITH CATARACTS.\*

By F. PHINIZY CALHOUN, A.B., M.D.,  
ATLANTA, GEORGIA.

That hook-worm disease is the most common of all the severe maladies in the South, there can be no doubt, and this contribution to the subject where the eye is secondarily affected, should be of interest to the general practitioner as well as to the oculist.

Some months after Harris had announced the discovery and the prevalence of unciariasis (hook-worm disease) in the South, there was found in the Eye Clinic of the Atlanta College of Physicians and Surgeons, a typical looking case, in which there were mature cataracts. An examination of the faeces from the patient confirmed the diagnosis of hook-worm disease, and after the usual treatment of calomel and thymol had been administered, in due time an extraction of one of the cataracts was made.

This case and others subsequently found in the same clinic were reported by my father, Dr. A. W. Calhoun, before this Association in 1904, and in part I herewith attach his report to make the subject more complete:

"February 1, 1904, I was consulted by Mrs. H., 42 years of age, from Florida. She was very pale and profoundly anæmic (condition found in reputed "Dirt Eaters"), with a skin of deep lemon-yellow color, and the mucous membrane of the mouth and conjunctiva almost bloodless. She gave no distinct history

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\*Read before the Medical Association of Georgia, 1910.

of malaria, and had not lost flesh and had normal temperature; indeed, her health was moderately good, but there was a slight dropsical condition of the lower extremities which she attributed to her sedentary life. An examination of the urine showed neither albumin nor sugar. Double cataracts (chalky white) were fully developed with good light preception, beginning a year after the establishment of the general disease. Examination of the stools showed the eggs of the worm in large numbers, revealing an undoubted case of Uncinariasis. After a few days of vigorous treatment, I extracted the cataract from the right eye. She made a good, rapid recovery and returned home a few days ago with good vision.

"In June, 1903, a boy 14 years of age, was brought to me from the southern part of Florida with well matured double cataract. He had identically the same **general appearance** and all the prominent **symptoms** of the case of the woman above described, the blindness as in the woman, beginning after the general disease had been in existence about eight months. Specimens of the faeces were examined and quantities of the hook-worm eggs were found. He had no malarial history. After an active treatment with calomel, followed by large doses of thymol, the cataract was needled and he made a satisfactory, uneventful recovery.

"During the summer (1903), I operated upon two other cases of cataract, associated with similar conditions; one male, 40 years of age, from South Georgia, and one female, 43 years of age, from Florida. Each presented the intense anæmic yellow skin, bloodless mucous membranes (conjunctiva a bluish white), normal temperature and freedom from malaria and kidney complications. Both had slight swelling of the lower extremities. As in the others, the cataracts in these cases began with the development of the general disease. In every instance where the examination of the faeces was made, the eggs of the worm were found.

"I can now recall to mind several other cataract cases, having all these well-marked conditions, but I did not then have any acquaintance with the parasite, and hence no examination of the stools was made. They were supposed to be suffering from malaria and were treated as such preparatory to the operation. I am now convinced they had hook-worm diseases."

The two following cases having been under my observation during the year, I report them completely to add additional evi-

dence to the fact that cataracts might be caused by the profound anaemia due to uncinariasis.

Case 1.—M. R., age 20, an ignorant country lad from the back woods near Ellijay, Georgia, was referred to me by Dr. J. E. Tankersly. The boy was so ignorant, or frightened at the time of my office examination, that I could obtain very little history from him, except that the sight in the right eye had gradually failed for one year, whereas the left had rapidly gone blind in the past three months; formerly he thought he had as good sight as any one. Dr. Tankersly confirmed his statements, having known the boy and his family, who belonged to that class known to us as "poor white trash." Heredity played no part in this case; his family was in fairly good health, yet most likely the home was a hot bed for hook-worm. This patient's health had never been good, evidently suffering from the infection of hook-worm, since he had the "ground itch," years ago. He occasionally had gone to school until his sight began to fail and he spent that year "around the house" because "shortness of breath" kept him from working. His appearance was so typical of hook-worm, that it was of no credit to the microscope to later find the eggs. He was small in stature, about four feet six inches, most pale, having a bloated face, an anxious expression, and the tissues relaxed, and he gave the appearance of not being more than twelve or fifteen years old, and the mind of one not that age.

Examining the eyes, I found the conjunctiva was bloodless the pupils reacted to light, and his projection was good. After dilating the pupils, I found a fully developed cataract in his left eye, the right not quite as mature. I sent him to the hospital to be operated on the next day. Except for a haemic murmur he was found to be normal by a physical examination. The urinalysis was normal. Blood haemoglobin 20 per cent.; red 2,000,000. Faeces loaded with eggs of uncinaria. Under cocaine anaesthesia a light discussion of the left cataract was performed and in two days I found absolutely no reaction either of the globe or lens. Four days later I attempted another discussion, lacerating the capsule well and stirring up some of the cortical substance of the lens. Much to my surprise, I still found no reaction to the eye or swelling of the lens. Then I deemed it best to give the patient the usual preparation and treatment of calomel and thymol for such parasites, and saving all stools after the administration of thymol, 750 worms were found. Within a

few days after the treatment the lens commenced to swell although it took six discussions in each eye to establish an opening through the dense capsule which remained clear and through which the fundus could be seen. After four months of careful nursing and treatment at the Wesley Memorial Hospital glasses were adjusted and with his left eye he could see 20/70 with a +11.50 S. The result in his right eye was not so good at that time, as there was an unabsorbed capsule. A very good view of the left fundus was obtained and I found marked circulatory disturbances in the retina. The nerve head was swollen two or three dioptries, the veins markedly dilated and throughout the retina there were a few small flame-like haemorrhages. The retinal condition is not uncommon in marked anaemias, but the first I have yet seen or heard recorded in a case of hook-worm disease. These retinal disturbances were undoubtedly the cause of his poor sight after the operation, as the pupil was large and black and the media clear. In a letter from the patient this year he tells me that his sight is still improving, meaning, as his anaemia vanishes, the retinal congestion diminishes and sight is restored. Unfortunately no accurate records of weight or height were taken but he must have grown two inches, and gained 30 pounds from July 4th to November 26th. The haemic murmur disappeared, his mind grew brighter and he was full of energy when leaving, although the thought of home and the approaching of Christmas time acted somewhat as a stimulus.

Case 2.—This case is not as interesting, but I am convinced that the anaemia produced by the hook-worm caused the cataracts.

L. B. C., aged 26, of Newnan, had been blind in the right eye for two years; in the left for ten years, whereas up to that time when out hunting, as he expressed it, "he could kill a rabbit as far off as any one." His father, an old man, had cataracts removed some years ago, a record of which I have. He gives a history of having had the "ground itch," for which he was given some sort of treatment years ago, and of having been thin and puny when a boy. This treatment possibly was the thymol treatment for hook-worm, although I have been unable to learn anything definite from his family upon this subject. This patient was well developed (another fact which makes me believe that thymol has at some time been administered), but he had the appearance of a boy 17 to 20 years old, and the intellect of one much younger, although he was thoroughly ignorant and

had never been to school. The right eye showed an immature cataract, of the cortical variety; vision, could count fingers at four feet. Left eye mature cataract. Projection good in each eye. Blood normal. Urine normal. Faeces: Many eggs of uncinaria. On account of no existing anaemia, I decided to operate before giving him thymol, in order to save time, and on September 11th, the lens was extracted *in toto* from the left eye, after the method of Graefe. Healing was uneventful and on the 27th the treatment for the hook-worm was given and about 200 parasites were found. Later a glass was prescribed for his left eye and only fair vision was obtained, viz.: 20/100, explained only by the fact that the eye was *amblyopic ex anopsia* for ten years. Only a preliminary iridectomy was performed in the right eye and I anticipate a much better result after extraction.

An analysis of these cases gives some very convincing facts leading me to believe that the anaemia of hook-worm disease can cause cataract. All of these cases state emphatically that at one time they had good vision, there was sickness which developed after having had the "ground itch" (meaning anaemia and its results), then the gradual loss of sight and finally partial or total blindness.

The lens of the eye, situated in the interior devoid of blood-vessels, receives its nourishment from the surrounding structures, and any deprivation of nourishment sets up a degeneration which means the formation of a cataract. In all of these cases the age in which the sight commenced to fail is unusual for the development of cataract.

833 Candler Bldg.

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#### TRACHOMA IN CUBA.

F. M. Fernandez (*Med. Record*, June 17, 1911) employs the following method in the treatment of trachoma: A cotton swab saturated with 10 per cent. solution of cocaine is brushed over the conjunctival surface of the lids and after a minute or two the lids are strongly everted and the granulations rubbed with some force with a cotton swab impregnated with sodium salicylate after dipping it in sterile water. The drug causes slight burning in some cases while in others the burning is quite intense, but this lasts a short time only. The granulations disappear by destruction from the rubbing and by reabsorption caused by the limited inflammation produced by the salicylate. This treatment is repeated every three or four days, making five or six applications. The author has used this treatment in nearly four hundred cases and has failed in fewer than ten cases.

## ON AQUA ZEOZONI,

A CHEMICAL MEANS FOR THE ABSORPTION OF ULTRA-VIOLET RAYS  
BY INSTILLATION INTO THE CONJUNCTIVAL SAC.

BY ADOLF ALT, M.D.,  
ST. LOUIS, MO.

The disagreeable sides of having to wear shading glasses in order to annihilate the dazzling and blinding effects of the ultra-violet rays in different affections of the eye have led to a number of studies as to the possibility of reaching this end by means of chemicals in solution instilled into the conjunctival sac.

C. Mannich and Zernik have found a number of substances which absorb the ultraviolet rays which have a wave length of between 400 and 300  $\mu\mu$ .

One of these substances the monoxyderivate of aesculin (obtained from the horse chestnut) has some time ago been recommended by Unna for the protection of the skin against the influences of the ultraviolet rays and is in the market in the shape of a paste under the trade name of Zeozon or Ultrazeozon.

More recently J. Ruhemann (*Berlin. Klin. Wochenschr.* No. 27, 1911) has reported his results with aesculin derivates employed in the eye in order to prevent the ill effects of the ultraviolet rays upon its different membranes.

After a series of experiments in which he at first tried a solution of the monoxyderivate successfully, he, on account of its being disagreeably influenced by the carbonic acid of the air, discarded this derivate in favor of the ortho-oxyderivate of aesculin as employed by Unna.

The instillation of this agent in solution into the conjunctival sac proved plainly that the dazzling effect on the eyes of sunlight, etc., is to the greatest part due to the ultraviolet rays with a smaller wave length than 400  $\mu\mu$  which this remedy absorbs. He used the remedy in a 0.3% to 0.5% solution neutralized with boric acid. This solution is of a slightly yellowish color. The stains it may accidentally produce on linen, etc., can be easily eradicated with dilute acetic acid.

This solution has received the name of Aqua Zeozoni and can be bought from the manufacturers, Kopp & Joseph, Berlin, Germany, Potzdamer Str. 122.

Ruhemann has made a series of observations regarding the action of Aqua Zeozoni in various eye afflictions. He states

that its instillation into the conjunctival sac, 3 or 4 times daily, causes no irritation or damage to the cornea even when it is applied in this manner for a period of months and for even a year.

The effect, the disappearance of the dazzling and blinding of bright light, is evident at once after the instillation and can be made continuous by three or four instillations during the day. The employment of Aqua Zeozoni, according to his experience, does away with the necessity of the patient's wearing shading glasses, veils, umbrellas, etc., and the disagreeable symptoms due to dazzling, as head pressure, dizziness, headache, myodesopsia, etc., disappear, even when the pupils are widely dilated by atropin.

Having reported good results in 40 cases, Ruhemann concludes by saying that a 0.3% solution of Aqua Zeozoni is able to annihilate the dazzling caused by light which contains too many ultraviolet rays, especially sunlight, and, in consequence, is of great value in high altitudes, at the sea, in blinding snowlight, and may therefore be used prophylactically in the different industries which use very bright light (against electric ophthalmia, glass-blowers' cataract). It may be necessary when working in very bright light to use a 0.5% solution.

The instillation of Aqua Zeozoni is similarly valuable when diseased and inflamed eyes are to be saved from the dazzling and other noxious influences of ultraviolet light, as in the various affections of the conjunctiva, iris, retina, in aphakia and opacities of the lens.

Through the kindness of Dr. Ruhemann I obtained about two ounces of Aqua Zeozoni with which I have made a number of experiments as to its direct effect on normal and diseased eyes. The time is as yet too short and the variety and number of the cases too small to give a detailed report. Yet, the value of Aqua Zeozoni in certain cases is sufficiently established in my mind to prompt me to call the attention of our readers to this innocuous and unirritating agent which by the absorption of the ultraviolet rays renders many an eye more comfortable than it could be made hitherto. I have been particularly anxious to try its effect on some albino, but have thus far not been able to do so. If, as I hope, it will render them more comfortable, it would be a great boon.

At some later date I shall take occasion to report on my experiences with this agent.

## TRANSLATIONS.

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### NOVOIODIN AN OPHTHALMIC REMEDY.\*

BY PROFESSOR WICHERKIEWICZ,  
KRAKAU.

Translated by A. Alt, M.D.

In studying the efficacy of a remedy ophthalmology surely offers the best chance among all the branches of medicine, because we can directly, and therefore more surely, observe whether a remedy has any effect and to what degree. Of the antiseptics we must prefer the one which kills the pathogenic microbes and does not interfere with the process of healing, that is, the regeneration of the altered tissues.

How many remedies have we tried from this standpoint and how many have we abandoned? Protargol, sophol, xeroform, pyoktanin, etc., have been put forward. Have we been successful with these?

In ulcerative processes of the cornea we have more and more trusted to pyoktanin. The deception experienced with the new remedies, the lack of efficacy of other remedies, often promised, have resulted in my beginning not without distrust the trial of a new remedy, novoiodin which was kindly placed at my disposal by the house of Dr. R. Scheuble and Dr. A. Hochstetter of Tribuswinkel, near Baden-Baden. If I have resolved already to communicate to my readers the results obtained with this remedy before having finished all my experiments, I do so only because all my scepticism has vanished with regard to this remedy and has been replaced by an entire confidence on account of many cures. I desire therefore that my colleagues, in the interest of their patients, may soon and often see the same successes with this new remedy.

I can dispense with an enumeration of the chemical properties of novoiodin. They can be found in numerous articles. I confine myself to say that novoiodin is a combination of iodin and formaldehyd, a combination therefore of two remedies each of which is bactericidal and which in union must act the more strongly.

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\*Revue générale d'ophtalmologie, June, 1911.

The mixture of this biniodid of hexamethylene-tetramin ( $C_6H_{12}Az_4I_2$ ) with talcum in equal parts which has received the name of novoiodin is a powder of very small grains, slightly brownish, without smell, amorphous, which splits up into its two components when brought in contact with an exudate or pus.

In order to make use of its antiseptic qualities, I decided at first to use it in cases in which we want to avoid the suppuration of older wounds or where an established suppuration must be suppressed.

Soon after I had received the remedy a case came which was favorable for its application. A boy, 10 years old, ran into a dark court, fell against a door, and wounded the upper eyelid and the skin of the nose; the sclerotic showed on the nasal side an open wound one and a half millimetre long and with irregular outline. Vitreous body protruded from this wound and was covered with a thin grayish membrane. There was a large haemorrhage in the anterior chamber in front of which the iris was visible which had been torn in its lower part.  $T=-2$ .

Vision was gone, except for a very bright light. Since more than twenty-four hours had elapsed I avoided any surgical intervention. Having cleansed the lids and the conjunctival sac most carefully, I powdered the lids and the scleral wound with novoiodin and put on a compressive bandage. The pretty severe pain gradually disappeared in the course of half an hour. Twenty-four hours later I was agreeably surprised to find not a trace of secretion. I renewed the treatment and bandage.

Under this treatment the wound, too, remained free from suppuration; in the following days the prolapse of vitreous body receded and after twenty days it formed only a darker and slightly prominent radiation which receded more and more. The blood disappeared from the anterior chamber and a large traumatic coloboma downward in the iris and a coagulum in the vitreous body became visible.  $T=n$ .  $V=fingers at from 1 to 2 metres on the nasal side.$

It would take too long to relate what other measures were taken to favor the absorption of the blood, but I must state that I have never seen with such a large injury to the eyeball such a rapid cure without suppuration, although the size of the scleral wound complicated by the prolapse of vitreous body was such as to make me fear it.

In consequence of these encouraging results I decided to employ the remedy in ulcerative processes of the cornea, and

especially when by bacteriological examination streptococcus, staphylococcus or pneumococcus had been found.

But even gonococcic affections (that is ulcers due to the gonococcus) were experimented on. I do not want to tire the reader by enumerating the cases. I just want to report one observation to show that novoiodin has always produced astonishing results where pyoktanin previously relied upon by me had been of little value, or in cases in which no treatment had been given, or where the destruction of the cornea was already well advanced. The secretion of the conjunctiva diminished visibly and took on a catarrhal character; the infiltrations of the cornea disappeared and the ulcers cleansed themselves already after twenty-four hours. In consequence pyoktanin, which I had used with preference in my service at the Hospital St. Lazare and in my ophthalmological clinic of the Faculty, had to give way to novoiodin in the treatment of ulcers of the cornea. We use this in the following manner:

Having cleaned out the conjunctival sac thoroughly and having instilled a drop of atropin or pilocarpin solution according to indications, I dip the end of a glass rod smeared with xeroform or boric acid ointment, or even with simple vaseline, into the powder of the following composition: Novoiodin powder, 1.0; powdered white sugar, 10.0. The powder adhering to the rod is placed inside the lower lid and wiped off by closing the lids and left in the eye. The powder applied in this manner never irritates or but very slightly and acts sufficiently. In this way we have by now treated more than 25 cases of *ulcus serpens* and we have had better results than could have been obtained with any other treatment. From this, I believe, I am forced to assume that novoiodin will take first place in the treatment of serpiginous ulcers. Even in several cases of corneal ulcers due to the gonococcus the treatment with novoiodin has visibly arrested the destruction, where nitrate of silver had very little or no effect although this remedy was again useful in the treatment of the swelling of the conjunctiva. This immense success in the treatment of serpiginous ulcers would in itself be sufficient to assure to novoiodin an important place in ophthalmology; but my experience with it allows us to foresee yet more numerous further indications, and new ones will not fail to be published. Thus as suppuration probably of metastatic character after a completely normal cataract extraction on a patient in whom the contemporaneous operation on the fellow eye gave an ideal re-

sult, menaced a total destruction of the globe. The bacteriological examination showed numerous streptococci. Since the process came from the deep structures and did not show itself before the third day I thought a disinfection of the interior of the eye necessary. The closed wound was reopened with all care, the interior of the eye was washed with a solution of pyoktanin which had given a relatively good effect in similar former cases, luckily quite rare. But in this case pyoktanin had no effect, and antistreptococcal serum did not arrest the process; and since the latter went on rapidly producing swelling of the lids and the conjunctiva and the pain caused the patient much suffering, I employed at this extreme stage the novoiodin in the mixture with sugar. My hope was not deceived. Almost immediately after the application the secretion diminished, the infiltration into the cornea and iris became so much less that, since he wanted it, the patient could a few days later be permitted to go home, with the necessary instructions. The threatening panophthalmitis did not develop.

Another case was that of an old patient who was at the hospital for bilateral cataract extraction. A chronic conjunctival affection with numerous diplococci made me postpone the operation. When neither nitrate of silver nor sulphate of zinc, nor a sublimate wash followed by electrargol succeeded in making the cocci disappear, and when the despairing patient wanted to return home, I had to make the operation. First I had the nasal secretion examined, and when the pneumococci found in it also did not disappear after treatment with lysol, I let the patient snuff some novoiodin before the operation; after the extraction was performed without the least difficulty I, also, put some novoiodin into the conjunctival sac and even on the lids. The healing took place in a way beyond what I had hoped for, for in a number of weeks this was the only case in which no secretion was observed and the wound healed to perfection. It is superfluous to say that this remedy will give us good service in cases of abscess of the lid; I believe that ulcerous blepharitis, also, is a field for this remedy and I have already convinced myself of this in a few cases.

A boy was operated on by one of my assistants after the method of Thiersch on the upper eyelid, which was totally ectropionized by a tuberculous affection of the frontal bone. The result was not good on account of the shrinkage of the transplanted grafts.

I did the operation over again after a few weeks and allowed the freed upper lid to slightly overlap the lower one. I covered the wound surface after Thiersch's method with many grafts of epidermis; then, as usual, I applied some pieces of gauze and xeroform gauze to the closed lids and finally bandaged the eye. When the bandage was changed five days later I found a great deal of secretion and a foul odor which made me fear a bad accident; and, in effect, I found the field of operation entirely covered with much pus, beneath which the grafts of epidermis appeared partly macerated. The field of operation was carefully cleansed and powdered with novoiodin and this produced an almost incredibly quick and excellent result. The secretion disappeared and almost all of the grafts of epidermis were preserved. The effect of the operation thereupon was satisfactory and the patient could close the eye. It is impossible to say that later on no shrinkage of the transplanted epidermic grafts, and consequently of the lid will, perhaps, occur, but even that could not prejudice the good opinion of the action of the novoiodin in diminishing the secretion.

There are, however, cases in which this remedy even does not succeed in arresting secretion. This is proven by the following case of pemphigus of the lids and conjunctiva, which I treated at the same time, not without success, with 606.

When the state of the left eye of the patient, 40 years old, had become so good that the ulcers were cicatrized and the movements of this eye, in all directions, were not interfered with by the symblepharon and keratoblepharon, I decided to make a syndesmoplasty for which I was going to use three pterygia from two patients ready for operation. The patient's right eye still showed some loss of epithelium where a few days previously new bullæ had been formed. After the operation on the left eye the lids of both eyes were powdered with novoiodin. Three days later the left (operated) eye whose palpebral skin appeared already perfectly normal, showed no more secretion; but the lids of the right eye were covered with creamy pus. When this was removed new bullæ were found in the neighborhood of the former losses of epithelium, and as far as was possible to see with the great sensitiveness of the patient, who at every touch suffered immensely and had to sneeze, the palpebral conjunctiva was swollen and covered with secretion. In order to give the remedy a trial, I again dusted it on both eyes; but a few days later the effect was altogether the same.

It is well known that no microbes have been found in many cases of pemphigus and that in other cases neither a constant nor a sufficiently characteristic result was obtained by a bacteriological examination, so that the disease may be taken for an affection of the trophic nerves, as I shall prove elsewhere. In consequence we are not astonished that the novoiodin made the affection worse even, by irritating the places devoid of epithelium.

The following case proves that novoiodin gives pretty good results, also, in cases of suppuration of the lacrimal sac.

A woman, 25 years old, was admitted to the Hospital St. Lazare suffering from an *ulcus serpens* produced by an injury in the presence of a copious suppuration of the lacrimal sac. In spite of washing of the lacrimal sac with boric acid solution, peroxide of hydrogen and later with protargol, and in spite of the cornea being treated with pyotktanin, we had to fear the perforation of the ulcer and the destruction of the remainder of the cornea. Having carefully washed out the lacrimal sac and powdered the novoiodin into the nasal angle of the eye, the suppuration of the lacrimal sac disappeared almost completely and the ulcer of the cornea began rapidly to cleanse itself.

This case shows that the powder, used in the way indicated, can have a good effect in *blennorrhœa* of the lacrimal sac. As I have been able to convince myself later on, the effect is even more certain when the remedy enters the sac itself, which can be obtained by slitting both lacrimal canaliculi so that the sac is open. I have successfully injected an emulsion of 10 to 20 of novoiodin to 100 of glycerin. Lately I have used with still greater success against the *pyorrhœa* of the lacrimal sac and in different abscesses an emulsion of 25 to 50 in 100 of liquid paraffin. In such case the inferior canaliculus must be opened in order to be able to inject the emulsion into the previously well-washed sac with a syringe having a canula with a big mouth.

Other indications for treatment with novoiodin are offered by conjunctival phlyctænules in which an ointment of 10 to 20 to 100 can be used instead of the powder.

Lately, accepting that phlyctænules are often influenced by tuberculosis, as has been proven by Dr. Rosenhauch in a very interesting paper based on observations in my clinic, I have used with excellent success an ointment of iodoform of 10 to 100 in cases of keratitis and conjunctival phlyctænules, especially in the

cases in which the tuberculin ointment, after Moro, gave a positive result. In such cases, too, we can expect that novoiodin may act at least in the same way, and perhaps even better, than iodoform.

Novoiodin does not dissolve in any known liquid; but a good suspension can be made in olive oil or glycerin. This permits of employing this remedy in abscesses and fistulas and of injecting it into the lacrimal sac.

I have previously reported on my manner of treating with pyoktanin the empyemata of the frontal sinus and other cavities in the neighborhood of the orbit. The contents of the cavity are removed completely or nearly so by aspiration; then an injection of pyoktanin removes relatively quickly and for all time even a considerably large empyema. It is quite probable that in these cases, also, pyoktanin may be replaced with equal or perhaps even greater success by an emulsion of novoiodin.

Novoiodinized gauze has the properties for serving as a tampon after incising abscesses. There are some further indications of this remedy in ophthalmic practice which I want to point out. In old people who wait for a cataract operation there may be a conjunctival secretion which resists all treatment. Since often the bacteriological examination of the conjunctival secretion shows numerous staphylococci, streptococci and pneumococci, we cannot proceed with the operation without risk. The patients wait impatiently to recover their sight. As the case above related proved, novoiodin has on several occasions been of good service to me in such cases by removing the mirobes in a short time and making the operation possible.

Moreover, I must say, that although the chemical composition of novoiodin may arouse some fear, it has in no case produced a general intoxication or a local irritation, as erythema or eczema, which occur so easily with the use of other antiseptic agents and especially of iodoform.

In order to complete my report and to prevent any misunderstanding, I want to say a few words more on the best manner to employ this new preparation in ophthalmic practice.

The novoiodin first sent me was, as I said, composed of biniodid of hexamethylen-tetramin and talcum in equal parts. Although the mixture showed itself extremely efficacious in the cases of wounds to the skin of the eyelids and even in the case related of wound of the sclerotic, the pain caused by this remedy seemed sometimes severe and continuous. Using this mixture

in affections of the conjunctiva, also, caused great pain so that the patients preferred to avoid being treated with this remedy although it was effectual.

When somewhat later I received some biniodid of hexamethylene-tetramin without talcum, that is a mixture of 5 to 25 with 100 of sugar, I used this powder most frequently in a mixture of 10 to 20 in 100, also in the cases of corneal ulcer. I found that this mixture caused almost no pain and no irritation.

In the cases cited above the remedy was used in this form, and I have almost altogether abandoned the original talcum mixture.

This mixture of novoiodin and sugar is relatively quickly dissolved in the conjunctival sac, or rather eliminated by the tears, so that I find no trace of it after an hour, and that I am inclined to use the remedy several times per day to get an even better effect.

In the cases of painful corneal affection I have added novocain (2 per cent.) to this remedy. It will be well to employ this method, especially in cases of zona ophthalmica, and generally in superficial and painful lesions. The patient suffering from pemphigus who could not stand the original novoiodin powder (with talcum), and who has again presented himself at my clinic for further treatment, can at present very well bear this mixture with novocain powdered on the conjunctiva or an ointment containing this mixture.

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A SIMPLE MEANS OF RENDERING EASIER THE  
CATHETERISM OF THE LACRIMAL PASSAGES  
IN CASES IN WHICH THE SHRINKAGE  
IS VERY PRONOUNCED.\*

BY DR. H. ARMAIGNAC,  
BORDEAUX.

Translated by A. Alt, M.D.

A great many of my colleagues know how conservative I am regarding surgical intervention on the lacrimo-nasal apparatus, and with what simple means I treat and cure as well the cases of dakryo-cystitis of whatever kind, whether there is shrinkage or stenosis of the nasal canal or of the lacrimal canaliculus.

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\**La Clinique ophtalmologique*, July, 1911.

For more than thirty years I have not cut a single lacrimal punctum, and have always been able to practice through the natural passage the catheterism with pretty thick probes, and to cure sometimes in a few weeks stillicidium, some dakryocystitis or lacrimal fistulæ which often had been in existence for a great number of years.

My communication to-day does not intend to treat on this subject, concerning which I have written many articles or memoranda for more than the third of a century, and my insistence, as I have been able to observe, has finally gained me some proselytes. Now fewer canaliculi are incised than formerly, but on the other hand more lacrimal sacs are mutilated.

I do not want to say that there are never any indications for these mutilations, but I hold that before arriving at this, and risking all, we must first have exhausted the whole series of remedies which I call conservatives; and that even when these remedies have failed, the antiphysiologic surgical interferences, as the incision of the punctum and the canaliculus, the removal of the lacrimal sac, etc., do not often prove to be successful. As far as I am concerned I have remained a fervent upholder of careful catheterism and of a regular and progressive dilatation accompanied and followed by a rigorous antisepsis.

But there are cases in which the catheterism is very difficult to perform, whether there is a shrinkage or a perfect obliteration at the inner orifice of the canaliculus or in the nasal duct. Sometimes there are granulations in the sac which render it very difficult to direct the end of the probe into the upper orifice of the nasal duct; in other cases there is caries of the bone which surrounds the sac and engages the end of the probe and causes it if badly manipulated to cause a false passage.

The false passages! Nobody thinks how often they are produced, and it has happened to me several times to see patients who probed themselves for a period of years through a false passage which had been made by some physician or which they had made themselves, and into the blind sac of which they entered regularly and conscientiously a thick probe, of course without obtaining the least particle of a useful result.

Sometimes the shrinkage is so pronounced that it seems absolutely impossible to pass even a small probe. I am of the opinion that the very thin probes are always dangerous, and I always begin with a No. 6 of my series, which corresponds closely to a No. 3 of Bowman's series, to which I have added some intermediate ones.

With this probe, if it is handled with prudence and delicately, it is difficult to make a false passage, because one can easily feel the resistance which its end encounters and which permits one to judge if the direction is correct or not.

On the contrary, with a fine probe one penetrates the tissues easily instead of following the natural passage, and once a false passage is made, the probe, so to speak, enters it by itself and then it is very difficult to find and follow the correct route.

The probes which I use have all a slightly olive-shaped end, and this form facilitates in a singular manner the catheterism and gives to the finger the definite sensation of an obstacle overcome which the cylindrical probe does not furnish. Everybody knows that for the catheterism of the urethra, which is quite analogous to the lacrimo-nasal canal, olive-shaped bougies have been used for a long time and almost exclusively when the object is to locate and measure a stenosis.

Yet the catheterism is sometimes very difficult and laborious in cases even of simple stenosis, and even when water injected through the lacrimal punctum comes out through the corresponding nostril, and although the probe has been well lubricated with sterile olive oil, which is the best lubricant. It even happens that if the probe at first presses firmly against the wall of the canaliculus or of the nasal duct, the lubricant is wiped off and then the progress becomes difficult.

I have, therefore, tried to employ in the catheterism what is used in machines for the same purpose, an oil bath or automatic greasing, and I have succeeded in it in the simplest manner. Before entering the probe I inject into the lacrimal passages with a Pravatz syringe with a fine canula three or four drops of sterile olive oil, which fill the sac, and I exert when necessary a slight pressure on the anterior wall in order to get some of the oil into the nasal duct.

Nobody would believe how much this little preliminary manoeuvre aids the catheterism. Strictures, formerly by the usual method unsurmountable by opposing a considerable resistance, allow the probe to pass with an astonishing facility without effort and without injury to the walls of the canal. With the same facility one or two thicker numbers may be passed, and during and after the catheterism the pain is considerably diminished or completely suppressed.

Whether we perform the simple catheterism or not, the little means which I have described will always be of service, and for this reason I have thought it my duty to make it known.

## MEDICAL SOCIETIES.

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### THE OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

Meeting held Thursday, June 8th, 1911.

Dr. G. A. Berry, President, in the chair.

*Extra-dural Tumor of the Optic Nerve*.—Mr. Arthur Benson.

*A Case of Myotonia Atrophica with Cataract*.—Mr. A. W. Ormond.

*A Case of Spring Catarrh Treated by Radium*.—Dr. George Mackay.

*Microscopic Specimen from a Case of Epiphora Due to Growth of Penicillium Glaucum in the Canaliculus*.—Dr. George Mackay.

*A Case of Spring Catarrh (limbal variety)*.—Mr. Sydney Stephenson.

(?) *Tuberculous Choroiditis*.—Dr. F. E. Batten.

*Congenital Deficiency of the voluntary Muscles Supplied by the Right Third Nerve*.—Mr. Cobbedick.

### PAPERS.

*The Treatment of Conical Cornea*.—Mr. Wray.

Mr. Wray urged the importance of early diagnosis, as a cone implied thinning as well as softening.

According to the author, conus is preceded by astigmatism against the rule, generally hypermetropic. Patients are mostly females between the ages of eighteen and twenty-five.

The important points in diagnosis are (1) the correcting cylinder is usually + and has an axis of between 5° and 15° down in. (2) There is a distinct cone shadow in those who come on account of asthenopia. (3) The blood-vessel phenomenon is always marked, but more easily seen in the lower grades. (4) The astigmatism is seldom stationary. (5) The patients seek advice later than in ordinary astigmatism.

It has been said that there is no evidence that treatment can retard the progress of conical cornea. With this statement the author was not in agreement. Treatment consists in (1) accurate glasses, (2) no work at reading distance, (3) good hours and open air exercise.

Local treatment depends on the type of disease. Type 1. Unicocular conus astigmatism. Correct both eyes as the other will probably become affected. A slight pressure bandage should be worn night and day over the affected eye. Type 2. Both eyes affected with an astigmatism of about 6 D. Binocular bandage night and day. One eye to be open during exercise. The eyes never to be fully opened. Correcting glasses to be worn when the eyes are in use. Type 3. Considerable difference between the two eyes. The worse should be bandaged night and day. Correcting glasses to be worn during exercise and meals, and the good eye not to be opened more than necessary. Type 4. Unicocular conus, astigmatism in the other eye. Treatment as for the preceding type. The cautery should be used if the cone is considerable, or if minor measures effect no improvement in three months. Type 5. Binocular conus. The best operative procedure is that described by Sir Anderson Critchett, but it is to be understood that the operation neither strengthens the softened cornea nor cures the thinning. Operative measures are neither the beginning nor the end of treatment. The author instanced a case in which vision was 6/9 after operation but a few years later was only finger counting.

Sir Anderson Critchett said the subjects of the condition were generally debilitated, and asked what was the reason for employing mercury. With regard to the operation, nothing could excel the marvellous improvement in sight obtained by the removal of the ellipse. One naturally had in mind the prescribing of the greatest amount of good to the greatest number. He had had a case in which the vision was 6/9 afterwards, and Mr. Stanford Morton and the late Mr. Silcock had obtained as much as 6/6. By his (Sir Anderson's) method one could deal successfully with the cases in which softening had already occurred, and in which removal of an ellipse was a practical impossibility. He aimed at not perforating the cornea, and since he introduced the method he had operated on 19 or 20 cases, and among those he had found it necessary to repeat the operation on three or four occasions. They were early cases, when he did not venture to go as near Descemet's membrane as he subsequently did. The

principle of his operation was the formation of three bands comparable to the hoops around a barrel, with the idea of getting graduated pressure from the three bands. The apex of the cone he dealt with by means of a rather highly heated cautery, burning until he got as near to Descemet's membrane as he dare go.

Dr. Maitland Ramsay said he could corroborate all that had been stated about the operation, which he had performed in from a dozen to twenty cases, and he was very well satisfied with it.

Dr. George Mackay raised the question of using convex cylinders in these cases, his idea being that conical cornea required concave cylinders.

Mr. Johnson Taylor took the opposite view to Dr. Mackay.

Mr. Sydney Stephenson alluded to Mr. Lang's remark that many patients with conical cornea did remarkably well with high convex cylinders. He reminded the meeting that William Thompson, of Philadelphia, in 1872, pointed out that in many cases of conical cornea the symptoms could be relieved by optical correction.

Dr. Landolt (Paris) said that when any treatment could be undertaken to correct the defect produced by kerato-conus, one willingly resorted to it; but it was very rare that any optical correction was applicable to kerato-conus—either cylinders or highly concave lenses. Where those failed he had tried, with good results, simple cauterization of the highest point of the cone with the galvanic cautery point. One should not go too deep, but should be willing to repeat the operation.

Mr. Lang remarked, in reference to Mr. Stephenson's comment, that he did not invent the high-convex cylinder for the condition; he derived the idea from Mr. John Couper. One might go as high as 15 or 16.

The President expressed his anxiety about the ultimate history of the cases. He had no experience of the results after a long time.

Sir Anderson Critchett, answering the President, said that a fortnight ago he had a letter from a patient on whom he did the operation 14 years ago, and whose sight was still much improved.

Mr. Wray replied at length to the criticisms, pointing out that he used mercury with large potations of water with the idea of improving the general health; and a doctor patient had testified to the benefit he derived from that treatment. Prophylactic treatment was not inconsistent with the operative treatment.

*Some Technical Details of the Operation of Simple Trephining.*  
—Major R. H. Elliot, I.M.S.

The author stated that this operation had now been performed in over 400 cases by 15 different surgeons acting under his supervision at the Madras Government Hospital during the last 19 months, and that as a result he was in a position to make suggestions as to its technique.

1. *In which quadrant of the eye should the trephining be done?* While it is obvious that the upper quadrant is the best, there are four conditions in which it is either very difficult or impossible to choose this site. (1) An unsteady, practically blind patient who obstinately rolls the eye upwards. (2) In operating for the relief of a staphyloma involving the upper part of the cornea. (3) In chronic cases when the upper part of the chamber is shallower than elsewhere. (4) When a condition similar to the last is due to anterior synechiae accompanied by rise of tension. An upward flap very rarely requires a stitch, a downward flap requiring one more frequently. If the flap has been cut in any other direction it is better to stitch it in every case at the time of operation.

2. *The nature of the flap and the method of making it.* The author's experience is in favor of the large flap as insuring free filtration and proper protection from infection. He has after careful observation with the keratometer not found that it causes astigmatism. The line of incision should run roughly concentric with the corneal limbus, and end 4 mm. below the highest point of the cornea and 4 mm. to the inner or outer side of the limbus. But cutting the flap in this way free filtration into the subconjunctival space will not be interfered with by the process of cicatrisation. In clearing the flap with the scissor points it is necessary in old standing cases to actually split the cornea in order to be certain of entering the chamber with the trephine.

3. *The application of the trephine.* The trephine hole must be placed as far forward as possible. It is advisable to (1) use a very sharp trephine, (2) to keep the area of operation clear of blood, (3) to make sure of cutting a definite groove on the first application, and (4) to steady the trephine blade and keep it to one spot by holding it gently, close to the edge, with a pair of forceps. After trying trephines of from 3.5 to 1 mm. in diameter the author decides in favor of one of 2 mm.

4. *Difficulties which may be met with in tapping the aqueous fluid.* If the aqueous does not readily escape it is either blocked

by the iris or the wound is oblique and valve-like. In the former cases the iris may be slit or a small part pulled out of the wound and cut off. The minimum of traction must be used in doing this. In the other class of cases the introduction of an iris respositor will show whether the iris is adherent at the base to the cornea, as the instrument will then appear behind the iris. In these cases it is not wise to push interference, as it will generally happen that filtration is successfully established at a later date.

5. The operation is done under local anaesthesia, but when as in acute glaucoma this is insufficient a subconjunctival injection of cocaine and adrenaline is also used.

6. *After management of the patients.* The eye can usually be uncovered on the fourth day provided that the anterior chamber has been established for twenty-four hours. The author recommends the use of atropine on the second day as he has found a tendency to the formation of synechiae without any inflammatory symptoms. Should iris prolapse into the trephine hole and eserine fail to relieve the condition, the flap must be thrown back and the prolapsed portion of iris removed. Should the flap be found out of place, it is replaced and fixed by a couple of sutures.

The author has seen no ill effects from the low tension that sometimes ensues.

*Anatomical and Mechanical Factors in Accommodation.—Mr. Thomson Henderson.*

After explaining Helmholtz's theory and pointing out several objections to it, the author explained that his view of the mechanism of accommodation was that though in accommodation the lens was released from tension, yet this result was not brought about by a dragging forward of the choroid but by a descent of the zonular curve by which the ciliary muscle alone, and not the choroid, sustained the full weight of the elastic traction of the lens. Each of the three anatomical divisions of the ciliary muscle had a specific role. The circular fibres acted as a sphincter ciliaris, having as an opponent the radiator fasciculi. These latter from their position supported the zonular curve, and therefore operated as a tensor zonulae. The longitudinal fibres terminated in the stroma of the suprachoroidea and orbicularis, and acted as a sustentaculum zonulae to the distal extremity of the zonule. In positive accommodation the zonular

curve was lowered by contraction of the sphincter ciliaris (circular fibres) associated with simultaneous relaxation of the tensor zonulae (radiating fibres), while in negative accommodation the now relaxed tensor zonulae contracted and raised the zonular curve and the sphincter relaxed. The sustentaculum zonulae (longitudinal fibres) played throughout a purely passive part, as it merely supported the orbicularis ciliaris, and thus prevented any strain being transmitted to either choroid or retina.

E. E. H.

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Meeting held July 13th, 1911.

Mr. Ernest Clarke (Vice-President) in the chair.

Mr. Arnold Lawson showed a case of Medullated Nerve Fibres near the Macula and apart from the Optic Papilla. There was a large flare on the lower external artery, with an absolute scotoma corresponding to the site.

Mr. Lawford showed a case of Subretinal New Growth of Doubtful Nature in a woman aged 77. The mass was about 4 times the diameter of the disc and raised about 4 D; it had a yellowish color and the retina over it showed fine, nearly parallel lines of folding. It was thought to be due to extensive exudation beneath the retina, possibly haemorrhagic in origin.

Mr. Frank Moxon showed a case of Hole at the Macula with Central Scotoma. There was no history of injury.

Mr. Roll described Clinical Appearances simulating Growth of the Eyeball. The eye was excised and sections shown by Mr. Greeves; the condition proved to be a Massive Retinitis.

Mr. Greeves showed sections of a case of Non-Pigmented Carcinoma of the Pars Ciliaris Retinae; it was composed of columnar-shaped cells lying flat and fitting end to end. Also sections of a Herbert's Sclerotomy Wound. The operation was performed on a blind eye, there was obvious filtration but pain was not relieved; it was excised after 14 days. The site of the sclerotomy was filled by a loose sponge of young connective tissue.

Mr. Cruise showed a case of Central Retinal Detachment, previously shown March 9th, 1911; also an Exostosis removed from the upper and inner angle of the orbit of a youth æt. 20.

Mr. McMullen showed a case of Retinitis Circinata in which

the ring of exudation was complete, and there was extensive haemorrhage at the macula; also a case of Subretinal Mass of Organized Exudate very like that shown by Mr. Lawford.

Mr. Hudson showed for Mr. Fisher a case of Gummatous Tarsitis.

Mr. Grimsdale showed a case of Central Retinitis resembling glycosuric changes disclosed after operation for cataract; no general disease was found.

Mr. Arnold Lawson read a paper on Two Cases of Metastatic Ocular Inflammation in association with *Bacillus Coli* Toxæmia. The first case occurred in a young lady æt. 21. There was acute optic neuritis of one eye, with much exudate, haemorrhages, 5 D swelling, and V. 6/12. Except for this and an offensive bacilluria she was in good health. The urine was swarming with *B. coli*. Helmitol was administered and in a fortnight the neuritis had cleared up and no recurrence had followed. The second case was in a woman æt. 36, the subject of rheumatoid arthritis and recurrent vesicular keratitis. Local treatment of the cornea caused an intense inflammatory reaction and reduction of vision. Simultaneously the urine was found to be offensive, containing pus and various organisms. She was treated with a polyvalent serum containing streptococci, *B. catarrhalis* and gonococcus without effect. Subsequently a preponderance of *B. coli* in the urine was found, and a vaccine of this organism was exhibited with rapid and most satisfactory results.

The Annual General Meeting was held at the termination of the Ordinary Meeting.

The Report of the Council, and the Treasurer's Statement of Accounts were read and adopted.

The following officers were elected for the ensuing twelve months:

President—J. B. Lawford.

Vice-Presidents—J. C. Uhthoff, T. H. Bickerton, Ernest Clarke, W. T. Holmes Spicer, Percy Flemming, Gorge A. Berry.

Hon. Treasurer—James Taylor, M.D.

Hon. Librarian—W. T. Holmes Spicer.

Hon. Secretaries—E. Farquhar Buzzard, M.D.; E. Brewerton.

Council—F. E. Batten, J. H. Parsons, C. H. Usher, W. W. Sinclair, J. H. Fisher, G. W. Roll, A. W. Ormond, F. M. Ogilvie, H. Herbert, G. B. James, G. H. Holmes.

## ABSTRACTS FROM MEDICAL LITERATURE

BY J. F. SHOEMAKER, M.D.,

ST. LOUIS, MO.

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### THE HEALING OF IRIDECTOMY WOUNDS AND ITS INFLUENCE ON GLAUCOMA.

Adolf Alt (*Jour. A. M. A.*, July 8, 1911), discussing this subject, reports his observations in a large series of experimental iridectomies which he made on rabbits in 1874. The healing of the iris wounds in eyes that were not infected took place in two ways according to the manner of the cut by the scissors. When the cut made two more or less equal flaps, the edges of the wound promptly came together and the wound healed promptly by first intention. When, however, the iris was cut obliquely the one flap of the wound gradually bent toward the other flap and thus in time closed the wound, generally after about six or eight days. He found that in all cases where no complications existed the healing took place in from a few hours to eight days following the doing of the operation. Moreover, from his study of a number of human eyes on which an iridectomy had been performed he was convinced that the healing in such eyes was very similar to that in rabbits' eyes. Examination of human eyes since these studies were made have generally shown that when the iris stump is free from the corneal wound or an older cicatrix the conditions were practically the same he had found them in the rabbits' eyes. In a few cases the healing seemed to have varied from this rule, caused by a blood-clot or fibrinous material preventing the closing, or as he found several times the raw surface was only apparent, there being a thin layer of endothelium covering the wound.

Alt refers to Thomson Henderson's views that "the severed iris tissue never shows any sign of scar, or other manifestation of reaction, for even years after the cut surface appears as if the operation had been performed post-mortem" and to his conclusion that the effect of an iridectomy in glaucoma is due to the absorption of the aqueous by the unhealed surface of the iris wound, and shows that this cannot be correct since he has found the iris wound healed where the iris was normal and Henderson himself admits that where the iris is diseased it may

heal. Since in most cases of glaucoma where an iridectomy is performed the iris is not normal it would seem more likely that the iris wound would heal and could therefore not act as an absorbing surface. As an iridectomy does not relieve glaucoma by influencing the outflow of aqueous, Alt believes the beneficial results must come by a reduction of the secretion of fluids into the eye or by altering their composition, a theory which was held by von Graefe himself.

#### THE SIGNIFICANCE OF RETINAL HÆMORRHAGE.

BASED ON A STUDY OF THE SUBSEQUENT HISTORY OF ONE HUNDRED AND EIGHTY-ONE CASES.

F. T. Rogers (*Jour. A. M. A.*, July 8, 1911), in his study of this subject, has omitted specific retinitis since it is much more amenable to treatment than other forms. He diagnoses his cases under one of six heads:

1. Retinal apoplexy, due to
  - (a) A rupture of the walls of a vessel;
  - (b) Diapedesis.
2. Simple retinitis, secondary to retinal apoplexy.
3. Hæmorrhagic retinitis with secondary hæmorrhages.
4. Albuminuric retinitis.
5. Diabetic retinitis.
6. Chorioretinitis.

Of his one hundred and eighty-seven cases seventy-four are living and one hundred and thirteen are dead. The diseases assigned as the cause of death are in consonance with the conditions recognized as entering into the aetiology of hæmorrhagic retinitis, which he sums up as follows:

1, Atheroma; 2, vasculitis and perivasculitis; 3, increased arterial or venous pressure; 4, altered conditions of the blood found in nephritis, glycosuria, oxaluria, or profound toxemia; 5, traumatism; 6, reflex disturbances. While seventy-four of the patients are living, thirty-four, or forty-six per cent., are in poor health, suffering from diseases similar to those causing the death of the one hundred and thirteen cases. From a study of his cases Rogers believes that not only in the albuminuric type of retinitis is the mortality high but also in all other type of hæmorrhagic retinitis, as well, and that more attention should be given to the future welfare of these patients.

The following conclusions are offered:

1. Three-quarters of all cases of haemorrhagic retinitis either terminate fatally within a few years or the patients suffer marked impairment of health.
2. The existence of any form of haemorrhagic retinitis is suggestive of present or future disease of either the nervous or circulatory system.
3. The duration of life in albuminuric retinitis increases with the age of the patient and the younger the patient, the worse the prognosis in point of time.

#### TRACHOMA—OBSERVATIONS ON THE DISEASE AS ENCOUNTERED IN THE GHETTO DISTRICT OF PHILADELPHIA.

Samuel Horton Brown (*N. Y. Med. Jr.*, April 1, 1911) from his observations and study of this subject concludes that:

Trachoma is an infectious, contagious disease, of chronic nature, attended by most disastrous results to vision, and practically incurable. The fact that a few recent cases in persons under the best surroundings have promptly responded to treatment should not be taken to invalidate this statement.

The only effective means of treating the condition is by refusal of admittance of infected patients to non-infected communities or countries.

Trachoma as it exists in America, and especially in Philadelphia, at the present writing, is a most attenuated form of the disease, particularly in the native born individual. These cases are of no greater importance than a host of ocular conditions, and while necessitating treatment do not call for isolation and segregation.

Trachoma cases with discharge, in America, are more dangerous than those without, but no more dangerous than any other discharging ocular affection, and not so much so as some.

In American cities, all "groups" of adults and children should be subjected to routine ocular examinations at regular intervals in order to detect new foci of the disease, but this does not imply that these patients should be subjected to rigorous quarantine measures. The disease is essentially chronic, and years may elapse before deformities occur, and the hardship quarantine thereby entails is obvious. Operative measures are unsatisfactory. Applications that lessen the discharge serve to retard the disease and make the patient comfortable.

## CAUSE OF INFLAMMATION OF CRANIAL NERVES AFTER THE USE OF SALVARSAN.

### A PLEA FOR THE INTRAVENOUS METHOD.

Jay Frank Schamburg (*Jour. A. M. A.*, May 20, 1911), abstracting the views of various men, formulates the following propositions:

1. The optic and auditory nerve trouble is syphilitic in character and may occur spontaneously or after mercury or salvarsan, and is unrelated to the latter (Ehrlich).
2. These complications are syphilitic, but in some way related to the administration of salvarsan, perhaps due to the traumatic effect of the drug on the nerves (Finger Rille et al.).
3. When occurring early, it is suggested that the complications may be an effect analogous to the Herxheimer reaction (Urbantschisch, Pincus, et al.).
4. It is believed by some observers that the introduction of salvarsan in "depots" in the subcutaneous or muscular tissues, where much of it may remain and undergo chemical change, may be responsible for a toxic effect on nerve structure.
5. I believe that an important factor in many cases in the production of the neuritic complications has been the cessation of treatment after a single subcutaneous or intramuscular dose of salvarsan; so much was anticipated concerning the radical curative effects of salvarsan that no subsequent treatment was given for months.

He pleads for the intravenous method of administering the remedy and closes with these conclusions:

1. Inflammation of the optic, auditory, facial and other cranial nerves has developed in a minute percentage of cases after the use of salvarsan in syphilis.
2. The same complications may occur spontaneously or after the use of mercury.
3. Whether the incidence of such neuritic complications is larger after salvarsan than after mercury is a mooted question, on which foreign specialists are not agreed.
4. These inflammations have occurred almost exclusively in cases of recent syphilis.
5. They appear to have occurred exclusively after intramuscular and subcutaneous injections and not after the intravenous administration.
6. Optic and auditory neuritis have in many instances cleared up under a second dose of salvarsan or under mercury and the iodids.

7. Most of the cases of neuritis have occurred two to three months after a single injection. A risk is incurred in discontinuing antisyphilitic treatment for a long period in early syphilis, after a single injection of salvarsan, particularly when given subcutaneously or intramuscularly. It would be, of course, likewise dangerous to cease treatment after brief mercurial administration.

8. The intravenous method of treatment has many advantages over the treatment by other routes.

#### SOME CASES RESEMBLING ATROPHY OF THE OPTIC NERVES WHICH RECOVER UNDER TREATMENT.

Leslie Buchanan (*Glasgow Med. Jr.*, February, 1911) reports a number of cases of healthy looking men between thirty and fifty years of age who complained of diminution of visual acuity. None of them used tobacco or alcohol to excess nor did they have any of the symptoms of toxic amblyopia. There were no evidences of digestive disturbances, kidney disease, or syphilis. All of the cases stated that vision, both distant and near, slowly became impaired without any headache; no cause could be assigned by them for the loss of vision. As several of the men were employed in such positions as railwaymen, postal servants, and ship's officers where the vision for form and color was tested regularly, there was no question but that the loss of vision was of recent origin in those cases at least. There was diminution of central vision, both for form and color, and generally concentric contraction of the visual field. The optic nerves had the appearance of early atrophy, pallor and sharp outline, without lessening of the calibre of the central vessels. There was no evidence of nervous disorder in any of the cases. That the condition was not due to advancing sclerosis of brain or spinal cord was evident from a number of cases he had under observation for periods of one, two, three or more years. The urine was normal and no point from whence toxic influences could start was discoverable. Malingering was ruled out by the fact that most of the men continued at work throughout the course of treatment. The treatment, in all cases, was either nux vomica or strychnin combined with potassium iodid. In most cases there was little improvement until after the treatment had been continued for a month or two, after which time there was steady, though slow, improvement for about a year. The treatment was continued until the visual acuity and the field of vision no longer improved.

## NOTICE.

The American Red Cross announces, in connection with the International Conference of the Red Cross which will be held at Washington, D.C., in May, 1912, that the Marie Feodorovna prizes will be awarded.

These prizes, as may be remembered, represent the interest on a fund of 100,000 rubles which the Dowager Empress of Russia established some ten years ago for the purpose of diminishing the sufferings of sick and wounded in war. Prizes are awarded at intervals of five years, and this is the second occasion of this character. These prizes in 1912 will be as follows: 1 of 6,000 rubles; 2 of 3,000 rubles each; 6 to 1,000 rubles each.

The subjects decided upon for the competition are:

- (1) Organization of evacuation methods for wounded on the battlefield, involving as much economy as possible in bearers.
- (2) Surgeon's portable lavatories for war.
- (3) Methods of applying dressings at aid stations and in ambulances.
- (4) Wheeled stretchers.
- (5) Support for a stretcher on the back of a mule.
- (6) Easily portable folding stretcher.
- (7) Transport of wounded between men of war and hospital vessels, and the coast.
- (8) The best method of heating railroad cars by a system independent of steam from the locomotive.
- (9) The best model of a portable Roentgen-ray apparatus, permitting utilization of X-rays on the battle field and at the first aid stations.

It rests with the jury of award how the prizes will be allotted in respect to the various subjects. That is to say, the largest prize will be awarded for the best solution of any question irrespective of what the question may be.

Further information may be obtained by addressing the Chairman, Exhibit Committee, American Red Cross, Washington, D. C.

Very respectfully,

CHARLES LYNCE,  
Major, Med. Corps, U. S. Army,  
Chairman, Exhibit Committee.

## BOOK REVIEWS.

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**ETIOLOGIA E PATOGENESI DELLA CHERATO-CONGIUNTIVITE PUSTULOSA.** (*Ætiology and pathogenesis of pustulous Kerato-conjunctivitis*). By Dr. Francesco Maggi. Pisa. F. Mariotti. 1911.

This monograph the result of the author's careful studies made in the ophthalmic clinic of Professor Gonella at the Pisa University as to the ætiology and pathogenesis of phlyctaenular kerato-conjunctivitis is of very great interest. It gives the results of Calmette's ophthalmoreaction in 110 cases, only two of which proved negative. The von Pirquet cutireaction was positive in 51 out of 54 cases. Thus the opinion of Weekers is strongly upheld by these researches which again prove that a tubercular intoxication underlies in most if not all the cases the formation of phlyctaenules of the conjunctiva and cornea.

It will pay our readers to study this scholarly monograph, which is accompanied by a few excellent microscopic illustrations.

**MANUAL OF DISEASES OF THE EYE, FOR STUDENTS AND GENERAL PRACTITIONERS.** By Charles H. May, M.D. 7th Edition, revised. With 362 original illustrations, including 22 plates with 62 colored figures. New York. W. Wood & Co. 1911. Price \$2.00.

When a practical textbook like the one before us has in the course of ten years reached its seventh edition, it needs no particular praise from the reviewer.

This new edition, like the former ones, comes still a little closer to being ideal, than was the first edition, by the addition of new chapters and paragraphs referring especially to more recent gains in our knowledge.

**PATHOLOGY AND BACTERIOLOGY OF THE EYE.** By E. Treacher Collins and M. Stephen Mayou. With three colored plates and two hundred illustrations and thirty-seven figures in the text. Philadelphia. P. Blakiston's Son & Co. 1911. Price \$4.00.

This textbook, which forms a part of an International System of Ophthalmic Practice, edited by W. L. Pyle, gives in a concise

form our present knowledge of the pathology and bacteriology of the eye. The two authors whose names in this particular field are well and widely known are to be congratulated on the excellence of their combined work. They have arranged the matter on hand in a natural and very commendable way which renders the book especially valuable for reference.

In the text the authors, whose opportunities for study have been exceptional, have to a large extent confined themselves to their own views which in a book of this kind is undoubtedly the right position to take. The few misprints do not mar the general excellence of the appearance of this volume. A great many of the illustrations are old acquaintance to the reviewer, but they are the authors' own.

As a concise textbook on the pathology and bacteriology of the eye it will prove of great value to the student and teacher.

ATLAS ZUR ENTWICKLUNGSGESCHICHTE DES MENSCHLICHEN AUGES. Von Ludwig Bach and R. Seefelder. (Atlas to the history of the development of the human eye.) First fascicle. With twenty-four figures in the text and fifteen plates. Leipzig. Wilhelm Engelmann. 1911. Price 20 marks.

Who, like the reviewer, has for many years tried to collect material in order to study the development of the human eye from its earliest stages, will hail with delight the advent of this magnificent Atlas. The authors whose works on different parts of this subject have made them eminently fit to undertake this work, have by the aid of many colleagues been put in a position to study the development of the human eye as has not been possible before. That they have made the best possible use of their opportunity goes without saying. And now by means of this most beautiful Atlas we are privileged to enjoy the results of their studies with them.

We cannot but accord our highest praise to the authors and the publisher alike. Descriptions and illustrations are of the highest order, in fact we do not see how they could be improved upon.

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